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PATENT & TRADEMARK OFFICE

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

SATTY. DOCKET NO.
2040.0410001APPLICATION NO.
10/664,404FIRST NAMED INVENTOR
Jun ShenFILING DATE
September 17, 2003ART UNIT
2832

3729

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA1	4,065,677	12/1977	Micheron et al.			
	AB1	4,461,968	07/1984	Kolm et al.			
	AC1	4,496,211	01/1985	Daniel			
	AD1	4,570,139	02/1986	Kroll			
	AE1	4,755,706	07/1988	Harnden, Jr. et al.			
	AF1	5,016,978	05/1991	Fargette et al.			
	AG1	5,048,912	09/1991	Kunikane et al.			
	AH1	5,398,011	03/1995	Kimura et al.			
	AI1	5,454,904	10/1995	Ghezzo et al.			
	AJ1	5,472,539	12/1995	Saia et al.			
MT	AK1	5,475,353	12/1995	Roshen et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
MT	AL1	DE 100 31 569 A1	02/2001	DE			Yes
	AM1	DE 198 20 821 C1	12/1999	DE			No
	AN1	0 452 012 A2 & A3	10/1991	EP			Yes
	AO1	0 685 864 A1	12/1995	EP			No
MT	AP1	0 709 911 A2	05/1996	EP			Yes
							No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

MT	AR	1	International Search Report for International Application No. PCT/US03/29254 mailed on March 05, 2004.
	AS	1	Richard P. Feymann, "There's Plenty of Room at the Bottom", December 29, 1959, pp.1-12, Internet Source: http://222.zyvex.com/nanotech/feynman.html .
MT	AT	1	E. Fullin, J. Gobet, H.A.C. Tilmans, and J. Bergvist, "A New Basic Technology for Magnetic Micro-Actuators", pp. 143-147.

EXAMINER

DATE CONSIDERED

10/25/06

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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			FIRST NAMED INVENTOR Jun Shen	
			FILING DATE September 17, 2003	ART UNIT 2832 <i>3729</i>

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA2	5,557,132	09/1996	Takahashi			
	AB2	5,629,918	05/1997	Ho et al.			
	AC2	5,696,619	12/1997	Knipe et al.			
	AD2	5,784,190	07/1998	Worley			
	AE2	5,818,316	10/1998	Shen et al.			
	AF2	5,838,847	11/1998	Pan et al.			
	AG2	5,847,631	12/1998	Taylor et al.			
	AH2	5,898,515	04/1999	Furlani et al.			
	AI2	5,945,898	08/1999	Judy et al.			
	AJ2	5,982,554	11/1999	Goldstein et al.			
MT	AK2	6,016,092	01/2000	Qiu et al.			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
MT	AL2	0 780 858 A1	06/1997	EP			Yes
	AM2	0 869 519 A1	10/1998	EP			No
	AN2	0 887 879 A1	12/1998	EP			Yes
	AO2	2 572 546	05/1986	FR			No
MT	AP2	4-275519	10/1992	JP			Yes
							No

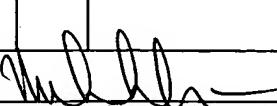
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

MT	AR	2	Jack W. Judy and Richard S. Muller "Magnetically Actuated, Addressable Microstructures", September 1997, Journal of Microelectromechanical Systems, Vol. 6, No. 3, September 1997, pp.249-255.
	AS	2	Ezekiel JJ Kruglick and Kristofer SJ Pister, "Project Overview: Micro-Relays", Tech. Digital Solid-State Sensor and Actuator Workshop, 1998, Hilton Head 98 and 19th International Conference on Electric Contact Phenomena, Nuremberg, Germany, Sept. 1998 (Downloaded from Internet Source: http://www-bsac.eecs.berkeley.edu/Kruglick/relays/relays.html , on July 12, 1999) 2 pgs.
MT	AT	2	Ezekiel J.J. Kruglick and Kristofer S.J. Pister, "Bistable MEMS Relays and Contact Characterization", Tech. Digital Solid-State Sensor and Actuator Workshop, Hilton Head, 1998 and 19th International Conference on Electric Contact Phenomena, Nuremberg, Germany, Sept. 1998, 5 pgs.

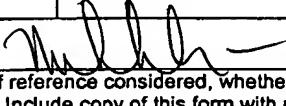
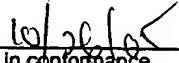
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				ATTY. DOCKET NO. 2040.0410001	APPLICATION NO. 10/664,404		
				FIRST NAMED INVENTOR Jun Shen			
				FILING DATE September 17, 2003	ART UNIT 2892 3729		
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA3	6,016,095	01/2000	Herbert			
	AB3	6,028,689	02/2000	Michalicek et al.			
	AC3	6,078,016	06/2000	Yoshikawa et al.			
	AD3	6,084,281	07/2000	Fullin et al.			
	AE3	6,094,293	07/2000	Yokoyama et al.			
	AF3	6,094,116	07/2000	Tai et al.			
	AG3	6,115,231	09/2000	Shirakawa			
	AH3	6,124,650	09/2000	Bishop et al.			
	AI3	6,143,997	11/2000	Feng et al.			
	AJ3	6,160,230	12/2000	McMillan et al.			
MT	AK3	6,297,072 B1	10/2001	Tilmans et al.			
FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
MT	AL3	6-251684	09/1994	JP			Yes
	AM3	54-161952	12/1979	JP			No
	AN3	WO 97/39468	10/1997	PCT			Yes
	AO3	WO 98/34269	08/1998	PCT			No
MT	AP3	WO 99/27548	06/1999	PCT			Yes
							No
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
MT	AR	<u>3</u>	Laure K. Lagorce and Oliver Brand, "Magnetic Microactuators Based on Polymer Magnets", March 1999, IEEE Journal of Microelectromechanical Systems, IEEE, Vol. 8., No. 1., March 1999, 8 pages.				
	AS	<u>3</u>	"P10D Electricity & Magnetism Lecture 14", Internet Source: http://scitec.uwhichill.edu.bb/cmp/online/P10D/Lecture14/lect14.htm , January 3, 2000, pp.1-5.				
MT	AT	<u>3</u>	"Ultraminiature Magnetic Latching to 5-relays SPDT DC TO C Band", Series RF 341, product information from Teledyne Relays, 1998.				
EXAMINER 				DATE CONSIDERED <u>10/26/05</u>			
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			FILING DATE September 17, 2003		ART UNIT 2632 3729	
			U.S. PATENT DOCUMENTS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
MT	AA4	6,410,360 B1	06/2002	Steenberge		
MT	AB4	6,511,894 B2	01/2003	Song		
	AC4					
	AD4					
	AE4					
	AF4					
	AG4					
	AH4					
	AI4					
	AJ4					
	AK4					
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL4			Yes No		
	AM4			Yes No		
	AN4			Yes No		
	AO4			Yes No		
	AP4			Yes No		
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)						
MT	AR	<u>4</u>	M. Ruan et al., "Latching Microelectromagnetic Relays", Sensors and Actuators A 91 (July 15, 2001), Copyright 2001 Elsevier Science B.V., pages 346-350.			
	AS	<u>4</u>	Xi-Qing Sun, K.R. Farmer, W.N. Carr, "A Bistable Microrelay Based on Two-Segment Multimorph Cantilever Actuators", 11th Annual Workshop on Micro Electrical Mechanical Systems, Heidelberg, Germany, IEEE, January 25-29, 1998, pp. 154-159.			
MT	AT	<u>4</u>	William P. Taylor and Mark G. Allen, "Integrated Magnetic Microrelays: Normally Open, Normally Closed, and Multi-Pole Devices", 1997 International Conference on Solid-State Sensors and Actuators, IEEE, June 16-19, 1997, pp. 1149-1152.			
EXAMINER 			DATE CONSIDERED <u>10/21/03</u>			
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA4						
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	AM5						Yes No
	AN5						Yes No
	AO5						Yes No
	AP5						Yes No
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
MT	AR	<u>5</u>	William P. Taylor, Oliver Brand, and Mark G. Allen. "Fully Integrated Magnetically Actuated Micromachined Relays", Journal of Microelectromechanical Systems, IEEE, Vol. 7, No. 2, June 1998, pp.181-191.				
MT	AS	<u>5</u>	Tilmans, et al., "A Fully-Packaged Electromagnetic Microrelay", Proc. MEMS '99, Orlando, FL, January 17-21, 1999, copyright IEEE 1999, pp. 25-30.				
MT	AT	<u>5</u>	William Trimmer, "The Scaling of Micromechanical Devices", Internet Source: http://home.earthlink.net/~trimmerw/mems/scale.html on January 3, 2000 (adapted from article "Microrobots and Micromechanical Systems by W.S.N. Trimmer, Sensors and Actuators, Vol. 19, No. 3, September 1989, pp. 267-287, and other sources)				
EXAMINER 			DATE CONSIDERED <i>10/28/03</i>				
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U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE	
	AA6						
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	AL6					Yes No	
	AM6					Yes No	
	AN6					Yes No	
	AO6					Yes No	
	AP6					Yes No	
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
MT	AR	6	John A. Wright and Yu-Chong Tai, "Micro-Miniature Electromagnetic Switches Fabricated Using MEMS Technology", Proceedings: 46th Annual International Relay Conference: NARM '98, April 1998, pages 13-1 to 13-4.				
	AS	6	John A. Wright, Yu-Chong Tai and Gerald Lilienthal, "A Magnetostatic MEMS Switch for DC Brushless Motor Commutation", Proceedings Solid State Sensor and Actuator Workshop, Hilton Head, 1998, June 1998, pages 304-307.				
MT	AT	6	John A. Wright, Yu-Chong Tai, and Shih-Chia Chang, "A Large-Force, Fully-Integrated MEMS Magnetic Actuator", Tranducers '97, 1997 International Conference on Solid State Sensors and Actuators, Chicago, June 16-19, 1997.				
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U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA7						
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	AL7						Yes
	AM7						No
	AN7						Yes
	AO7						No
	AP7						Yes
							No
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)							
MT	AR	Z	Ann, Chong H. & Allen, Mark G., "A Fully Integrated Micromagnetic Actuator With A Multilevel Meander Magnetic Core, 1992 IEEE, Solid-State Sensor and Actuator Workshop, Technical Digest, Hilton Head Island, South Carolina, June 22-25, 1992, Technical Digest, pp. 14-17.				
	AS	Z	English-Language Abstract of DE 10031569, published February 1, 2001, 1 page.				
MT	AT	Z	English-Language Abstract of DE 19820821, published December 16, 1999, 1 page.				
EXAMINER <i>[Signature]</i>			DATE CONSIDERED <i>10/26/05</i>				
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U.S. PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE	
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	AL8					Yes	
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	AN8					Yes	
	AO8					No	
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MT	AR	<u>8</u>	English-Language Abstract of EP 0780858, published June 25, 1997, 1 page.				
	AS	<u>8</u>	English-Language Abstract of EP 0869519, published October 7, 1998, 1 page.				
MT	AT	<u>8</u>	English-Language Abstract of FR 2572546, published May 2, 1986, 1 page.				
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
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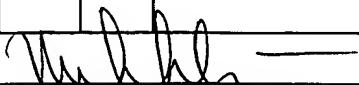
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MT	AR	9	English-Language Abstract of JP 4275519, published October 1, 1992, 1 page.
	AS	9	English-Language Abstract of JP 6251684, published September 9, 1994, 1 page.
MT	AT	9	English-Language Abstract of JP 54161952, published December 22, 1979, 1 page.

EXAMINER

DATE CONSIDERED

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	AO10					Yes No
	AP10					Yes No
OTHER (Including Author, Title, Date, Pertinent Pages, etc.)						
MT	AR	<u>10</u>	English-Language Abstract of WO 9927548, published June 3, 1999, 1 page.			
	AS	<u>10</u>				
	AT	<u>10</u>				
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